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ABSTRACT

The handbook, capsulizing much of the growing body of research and writing on conceptual approaches, is designed to provide assistance to elementary teachers in giving students a conceptual perspective for dealing with social studies content. The handbook is arranged in seven sections. After a brief discussion of the rationale for teaching concepts, the second section focuses on the meaning of concepts. Concepts are defined as abstractions that refer to a class or group of objects, qualities, etc., which possess certain common characteristics. This section discusses the components of concepts, such as attributes, classes, and symbols, and the relationship between concepts and generalizations. The third section discusses the advantages of teaching conceptual thinking and of teaching students to generalize from one situation to another. The fourth section enumerates a number of principles for the teacher to keep in mind in order to facilitate the learning of concepts by the students, such as actively involving students in the learning process. The fifth section offers two strategies for teaching concepts. The deductive strategy is characterized by the introduction of the concept or generalization at the beginning of the instruction sequence. The student is then given the opportunity to verify the concept or generalization through experience or example. The inductive strategy begins with specifics and proceeds to generalizations which are then tested. The sixth section provides a checklist for evaluating conceptual teaching and learning. The self-checklist helps teachers analyze teacher behavior, student behavior, and the curriculum. The last section lists articles, books, and parts of books dealing with the concepts and concept teaching and learning in social studies. (ND)

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FOREWORD

Concept Teaching in Social Studies has been prepared for all who develop and teach social studies because of the belief that there has been and continues to be a general need for a better understanding of the most fundamental ideas underlying conceptual teaching in the social studies classroom. It brings together the thinking of some of the more prominent educators who have addressed themselves in recent years to concepts and conceptual approaches.

It is hoped that this bulletin will provide assistance in giving students a conceptual perspective in dealing with social studies content they will need to find meaning and personal satisfaction in the future.

M. L. Brockette
Commissioner of Education

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RATIONALE

One of the many challenges facing social studies educators today is deciding what should be presented to the student for maximum educational value. The rapid rate at which knowledge is being accumulated in the twentieth century makes it impossible for a person to learn or teach all known facts. Of necessity, teachers must know how to select course content that is significant and transferable from one context or experience to another.

During the last decade a number of efforts have been made throughout the nation to revise social studies curricula in order to meet this challenge. A result of these efforts has been agreement among many social studies educators that social studies content should be organized around a framework of concepts and generalizations drawn from the various social science disciplines.

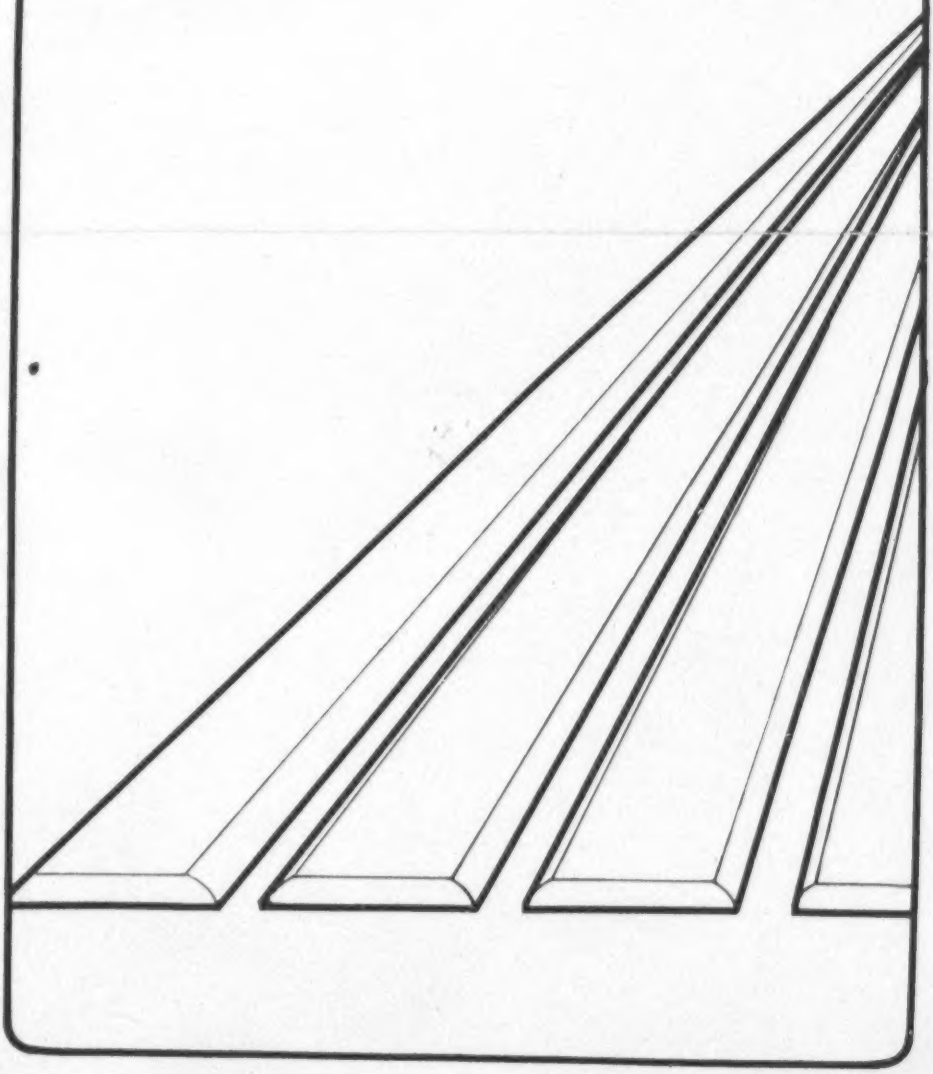
At the same time the national efforts were being undertaken an extensive study was conducted in Texas by Texas Education Agency staff members, the curriculum committee of the Texas Council for the Social Studies, study groups in Texas school districts, and staff members of the regional education service centers and many teacher education institutions. The results of this study were incorporated into the Texas Education Agency bulletin, *Framework for the Social Studies, Grades K-12*, which is intended to provide guidelines to Texas public schools in planning their social studies programs and to serve as a basis for state adoptions of social studies textbooks.

According to guidelines in the *Framework*, social studies content, particularly on the elementary level, should be planned within a conceptual framework to ensure transferability of knowledge and ideas from one context or experience to another. The move to a conceptual framework is reflected in state-adopted textbooks for

elementary social studies and in elementary social studies curricula throughout the state. *Concept Teaching in Social Studies* has been designed particularly with the elementary teacher in mind; nevertheless, it can be of value to secondary teachers and teacher education students.

This bulletin is not intended as a definitive study of the conceptual approaches to social studies. Rather, it is designed to capsulize much of the growing body of research and writing on conceptual approaches for the busy educator who is hard-pressed for time to collect and review all the pertinent literature relative to concept teaching in social studies.

WHAT ARE CONCEPTS?



Many meanings are universal within a culture or society. Since most individuals within that society have a number of virtually identical experiences and have been in nearly the same environments, common experiences are categorized under similar labels or symbols. The meanings recalled by these labels or symbols are *concepts*.

Concepts are abstractions that refer to a class or group of objects, qualities, actions, etc., possessing certain common characteristics. The concepts people develop are woven into their *cognitive structure*--the way the individual has organized and labeled his or her own experiences.

Because some individuals have had different experiences, they may have different concepts. For example, the terms teacher, classroom, and learning symbolize concepts with which social studies teachers have had much experience. These terms have commonality and universality that make them useful in communication. Such words as paradigm, mandamus, and heuristic, however, are not so familiar to the same group of teachers but are daily jargon to another group of people.

To illustrate with a concept common to social studies, natural resources, teachers listing names of natural resources will most likely include several of the items below. This is to be expected; somewhere in their formal or informal education they have acquired a means for identifying natural resources.

nickel	limestone	animals
vegetation	soil	game
bauxite	air	furs
birds	salt	oil
plants	lead	fish
uranium	trees	gold
iron ore	water	silver

Attributes

Why are the teachers' lists similar to the above list? What do the listed items have in common?

The first component of a concept is its attributes or characteristics. These common characteristics are the distinctive characteristics of things, events, ideas, or qualities.

What are the attributes of natural resources? First, they are provided by nature. Secondly, they are usable by people--otherwise they are not resources. For example, uranium was not a resource for the American Indians because they did not have the technical knowledge nor the need to utilize this mineral. However, as technology changed and the need for uranium increased, it became an important resource.

All concepts have attributes which make them useful. But knowledge of these attributes varies among people depending on the extent of their experiences.

Concrete experiences provide common meanings for concepts. Because they can be experienced through the senses, rain and snow are concrete concepts; they are common to many environments. *Abstract concepts*, on the other hand, cannot be experienced directly through the senses. The more abstract the concepts are, the more diverse the meanings become. For example, the concept beauty varies widely among individuals and cultures.

Classes

The second component of a concept is the category or class in which things, events, ideas, or qualities having the same or similar attributes are grouped. Several classes could be included under natural re-

sources, such as animal, plant, or mineral resources. Returning to the earlier listing, we can now classify the natural resources as shown below:

Concept: Natural Resources

Classes:	Animal resources	Plant resources	Mineral resources
	furs	vegetation	water
	game	plants	lead
	birds	trees	salt
	fish		air
			soil
			limestone
			gold
			iron ore
			uranium
			bauxite
			nickle
			oil

Categories are important because they permit communication by referring to large classes of things without enumerating every item in the class.

A concept is dependent upon the frame of reference in which it is used. Although animal resources is one class under natural resources, in another context it might be used as a concept, as shown below:

Concept: Animal Resources

Classes:	Furs	Game	Birds	Fish
	mink	deer	duck	sardine
	beaver	bear	geese	salmon
	marten	moose	turkey	tuna
	ermine	duck	bobwhite	white fish
	rabbit	geese		halibut

Each of the items in the above listing may, in certain contexts, be used as concepts. If birds were the con-

cept under consideration, the concept label for the classes might include listings by types of beaks, feet, wings, or natural habitat. It would seem that this branching could go to infinity, but actually it stops at the limit of an individual's experience.

Concepts are important because they allow communication of a large amount of information efficiently by helping to capsulize and categorize meanings. Meanings are recalled by the labels given these individual categories or classes. Such labels are referred to as symbols.

Symbols

Symbols are another component of concepts. They give people the ability to communicate concepts readily to others. Some symbols are verbal labels, words or numerals which stand for words; others are pictorial, such as the heart as a symbol for love. There are also nonverbal-visual symbols, such as the shoulder shrug, and nonverbal-auditory symbols, such as a scream. But the symbol alone is not a concept. It is an agreed-upon way of referring to the concept. The meaning it recalls depends on both the real and vicarious experiences of the receiver. Real experiences are those in which an individual has direct involvement, such as a field trip to the State Capitol. Vicarious experiences are secondary experiences, such as activities experienced through reading a book or seeing a film about the State Capitol, or hearing someone tell about a trip to the State Capitol.

Words are merely the verbal symbols for concepts. Emphasis on vocabulary is important, not for the sake of the words themselves, but to assist students in symbolizing, putting effective names on conceptions.

GENERALIZATIONS

Developing labels for experiences so that they may be recalled easily is only one of the goals in the teaching of concepts. Another aim is assisting students to discover the relationships between concepts.

A *generalization* is the statement of relationships among concepts that has predictive validity in time and space. In other words, a generalization allows a meaningful relationship of concepts. From this relationship, one can predict what will happen in other situations. An example might be the concept, round. The concept is in our cognitive structure and we know that marbles, balls, beads, pencils, and other objects that can be categorized under the concept will roll when pushed or placed on an uneven surface. That generalization is useful as long as we understand the concept, roll. A pencil rolling is different from a ball rolling; however, both actions are generally classified as rolling. Given the generalization, round objects roll, what would you expect to happen when you place an orange on a table?

RELATING CONCEPTS AND GENERALIZATIONS

Both concepts and generalizations are built on experiences (illustrated in figure 1), which can be either real or vicarious. All knowledge is built on experiences, from which individuals develop facts and discriminations.

Facts are simply verifiable bits of information that can be used to support concepts and generalizations. They are limited in value because they describe one object, event, idea, or quality. One cannot get along

without facts, but the teaching of facts alone permits little worthwhile learning. The following are facts on the disposal of wastes:

Some sewage remains untreated.
Much sewage is dumped directly into local streams.
The drainage from dumps ends up in streams.

These statements are useless, however, unless they are related under the concepts, water resources, pollution, and careless use. Moreover, these facts must be related to each student's own experiences.

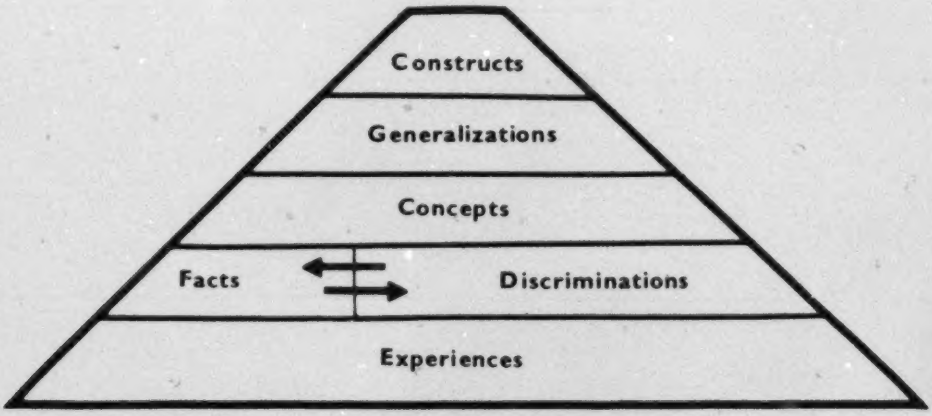


FIG. 1. HIERARCHY OF THINKING MODEL

At this point teachers may wish to dispute whether the statements listed are facts or generalizations. There is room for disagreement here. Some facts are summaries of other facts. The term *understanding* is often used to identify the bigger factual ideas; so discrimination between facts and generalizations is not necessarily a solution. The generalization, people often pollute water resources through careless use, may be used as an illustration. How is it related to the generalization, people often waste or

destroy resources? The latter generalization is simply broader. It is a higher level of abstraction. Thus, there are differing levels of generality among concepts and generalizations.

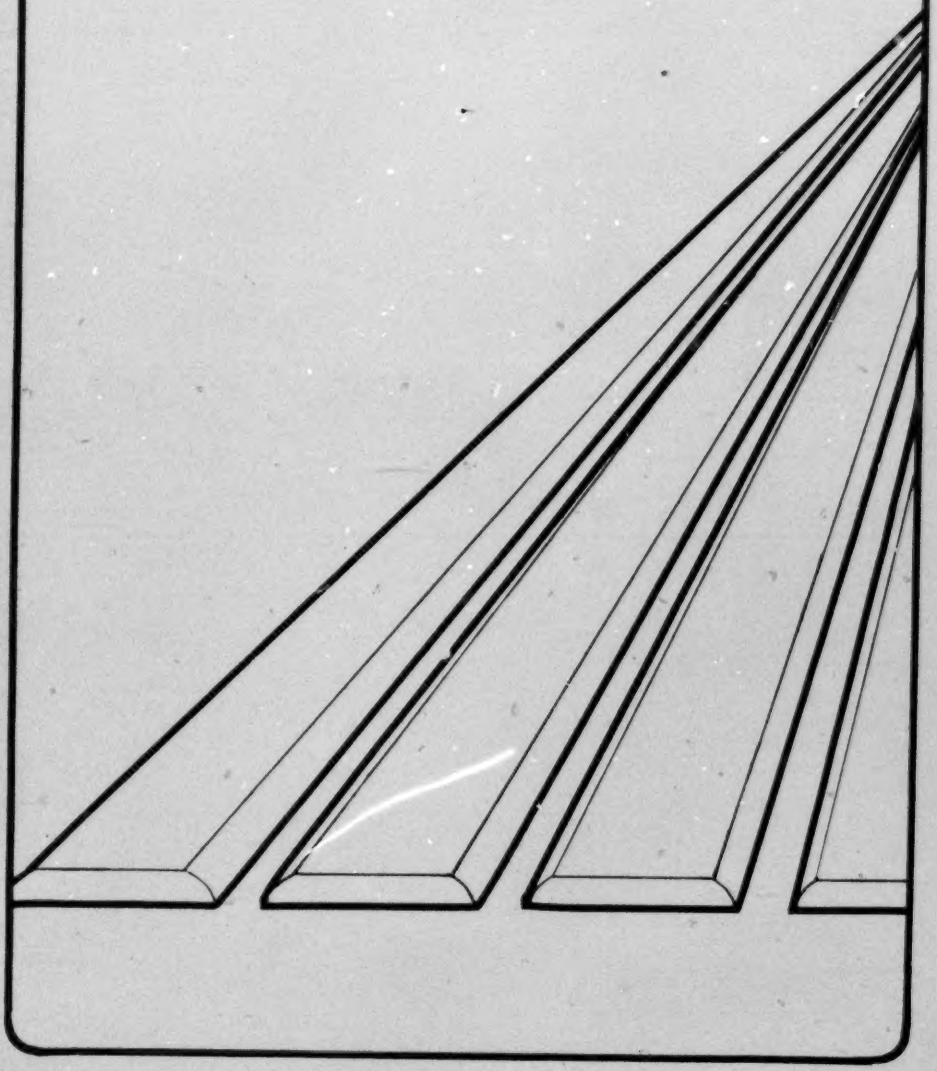
Unfortunately, the principle--learning is based on experiences--sometimes receives little attention in social studies classrooms. How does one explain the concept, pollution, to students who have never experienced stench and filth or never found their favorite stream unfit for recreation? Would it be possible to relate the concept to their experiences with a clogged drain, uncovered garbage cans in the summer, or water that has been in a flower vase beyond the time when the flowers should have been discarded?

Teachers often make the statement: "Students cannot think inductively because they have so little background knowledge." This statement is partially true. Students cannot think beyond their experience level, but neither can adults. Experiences are the base upon which thinking is built.

At the apex of the thinking pyramid in figure 1 is the development of constructs. A *construct* is an organization of interrelated concepts and generalizations. It represents a complex organization of ideas placed together because of their usefulness in explaining specific phenomena. For example, the model illustrated in figure 1 is a construct.

Concepts, generalizations, and constructs all function within what is called the cognitive structure. The elements are hierarchically arranged because each higher element is based on the learnings attained at the lower levels. These meanings and experiences are capsulized in concepts which are developed through a process of distinguishing among pieces of information called facts. The higher levels of thinking--generalizing and developing constructs--are dependent upon such conceptualizations.

WHY TEACH CONCEPTS?



The use of conceptual thinking offers a number of advantages to the learner. First, conceptual thinking permits the student to deal with generalities rather than specifics. If we look at the generalization, people use the resources of the place where they live, we can use several categories of meaning without listing all the individual resources which are classified under animal, plant, and mineral resources. Moreover, the generalized *people* allows us to refer to all nations, levels of technology, genders, and times. *Place* is applicable to plains, mountains, and seashores. And generally the term *use* translates into changes to make useful. All of that meaning is a 10-word sentence which may be used either in thought or to communicate with others.

Finding that this generalization is true in a few instances also illustrates another advantage of conceptual thinking: It allows the student to predict what will happen in new situations. Finding a tribe of primitives in a jungle or an advanced culture on some distant planet, scientists will be able to guess rather accurately what raw materials they use by examining their physical culture. In other words, knowledge of one culture is transferable to the study of other cultures.

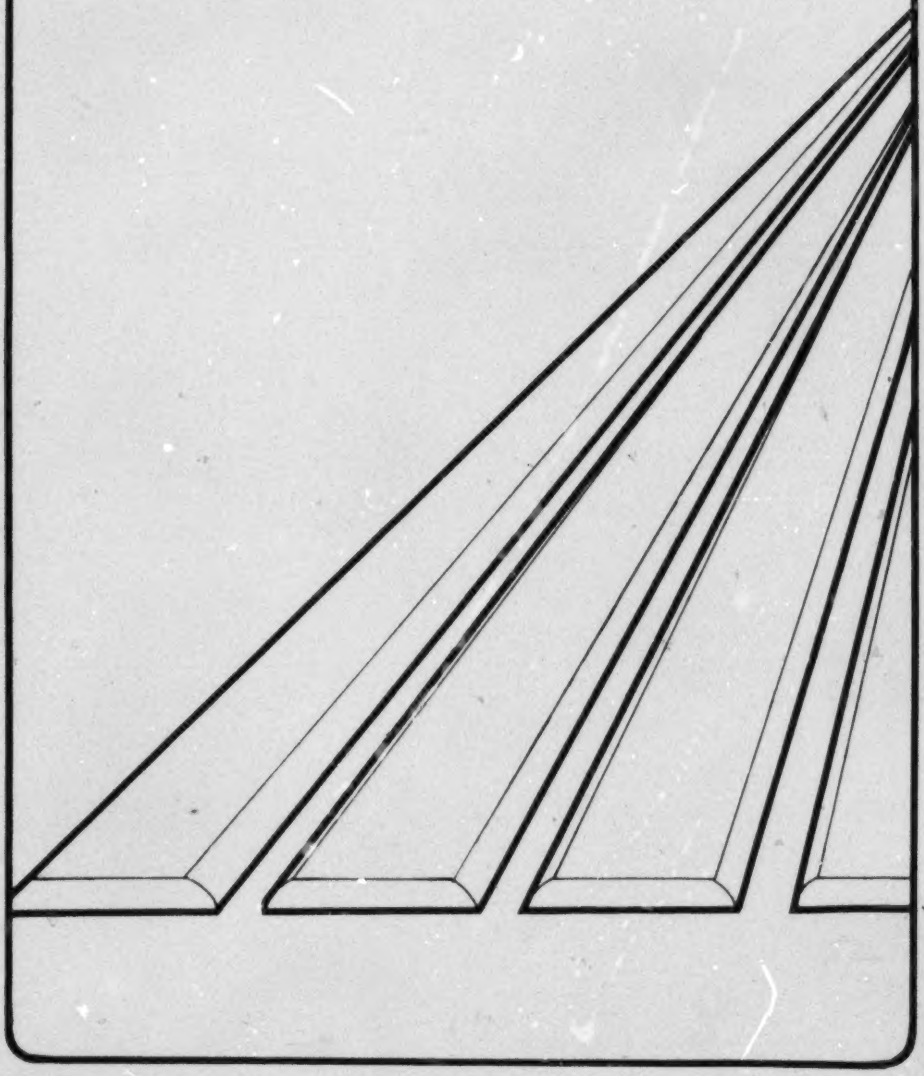
The ability to generalize from one situation to another presents a third advantage: Students are able to gain a deeper knowledge of a situation because they are freed from redundant detail. Suppose a student has studied the concept, specialization, in economics and geography. This concept may be dealt with again when the student studies biology. The situation is different, but the student has the advantage of knowing--without trial-and-error learning--that some organs perform one task while others are performing different tasks. The student doesn't have to list under heart the special task it performs or under lungs the special task they perform in order to understand specialized body functions.

The ability to conceptualize also allows the student the advantage of mentally manipulating situations to solve particular problems. We have learned through our experience with animals that many of them will not harm a person unless threatened. For example, while working in the yard one may notice a number of bees around the honeysuckle bush. The person may reason, "If I don't disturb the bush, I can weed the area around the bush without getting stung." Many children do not reason this way. They may lack the experience.

The current information explosion, caused largely by rapid, large-scale technological advances, poses a major challenge to both teachers and students. Never before has there been such an overwhelming and impossible amount of information to teach and learn. It has been estimated that more than 2,000 pages of newspapers, books, and reports are published throughout the world each minute. In other words, enough printed material to fill a thousand feet of bookshelves is published each day. Even if it were possible for students to memorize all this information, new discoveries and technological advances would make much of it obsolete long before they completed their task.

Therefore, students must have some logical structure or system for organizing and ordering the overwhelming volume of random information and experiences that face them. This is where concepts enter the teaching-learning picture. A curriculum organized around concepts can provide the structure to enable students to understand meaningful relationships and the stability necessary for students to meet the challenges of our ever changing world. Facts may change as new nations emerge, boundaries change, the U.S. Constitution is amended, major food sources change, and different value systems emerge, but concepts such as nation, freedom, democracy, scarcity, and values will remain part of the student's conceptual framework to which new experiences and information may be related.

PRINCIPLES OF CONCEPT LEARNING



Although considerable research has been gathered on the nature of concepts and their role in learning, little has been done to translate the implications of this research into meaningful terms for the classroom. However, a number of principles are indicated by these studies that the teacher should keep in mind in order to facilitate the learning of concepts by the students.

STUDENTS MUST BE ACTIVELY INVOLVED IN THE LEARNING PROCESS

The teacher may identify a concept and have the student memorize what someone else thinks the concept is, but the learner cannot be expected to understand the various aspects of the concept. The chances are that knowledge of the concept will not go beyond the cognitive level of recall. If higher cognitive levels are to be attained, the concept must evolve in the mind of the learner through a process of conceptualization. The role of the teacher, therefore, is to guide or facilitate the conceptualization process.

Teachers have available a number of strategies to facilitate concept development. But, in almost every instance, there is a need for the student to work with both positive and negative examples of the essential facets of the concept.

The following strategy is one example of how a teacher could guide students in developing the concept, resources:

- Identify the concept.
- Show the students several examples of items that are resources.
- Show the students several examples of items that are not resources.

- Show the students examples and nonexamples of resources and have them select the examples of resources.
- Ask the students to explain why the examples they select are resources.
- If the students fail to identify or explain the relationships correctly, introduce additional examples and nonexamples of resources.

CONCEPT DEVELOPMENT IS A GRADUAL, CUMULATIVE PROCESS

Another principle essential to understanding the development of concepts and generalizations is that the process is gradual, cumulative, and never ending. A student's understanding of a concept grows from the concrete to the abstract as each new experience is related to past experiences and as the relationships are tested in a variety of situations. As these conceptual structures are formed, others created previously that are inconsistent are modified or put aside to accommodate the new ones.

STUDENTS DEVELOP CONCEPTS AT DIFFERENT RATES

The rate at which each student develops concepts will differ depending upon a multitude of variables such as age, experience, motivation, and intelligence. Therefore, the number of different experiences necessary for mastery of a concept will vary from student to student.

STUDENTS MUST BE LED TOWARD DEVELOPING CONCEPTS

Although concepts and generalizations may be developed through trial-and-error learning, which is characteristic of true inductive learning, this method of teaching is usually too time consuming for the classroom.

Most of the so-called inductive approaches used in the classrooms today are really guided discovery approaches in which the student's attention is focused on certain attributes or characteristics during each learning episode. One procedure to accomplish this follows:

- Determine whether the students understand the required conceptualization.
- Focus the students' attention on the desired attributes or characteristics.
- Have the students actively manipulate the data and make inferences.
- Assist the students in evaluating their inferences.
- Ask the students to generalize about what they have seen.

The student is led, step-by-step, toward a conclusion. The direction the conclusion takes can be either open or closed, depending upon the purpose of the instruction.

A learning packet developed by a teacher to show the influence of the Spanish culture on the culture of Mexico may serve to illustrate this approach. The concept the class is developing is cultural change. The generalization they are working toward is: When cultures come into contact, changes occur. The teacher plans to develop the concept and generalization through a study of architectural styles.

A cassette tape and several sets of pictures and sort cards are used to mediate the learning packet. The teacher begins with a pretest to determine whether the students beginning the packet already know the concept and generalization. The pretest also assesses the students' understanding of the concepts, contact, and culture. This is accomplished by having the students sort cards which are examples and nonexamples of the concepts in question. Their knowledge of architectual style is determined through selecting pictures which illustrate each style.

The tape is used to give directions to the students, who are instructed to stop the recorder each time a task is assigned and start it again when the task is completed.

The first instructional activity is to present the answers to the pretest in such a way that the students receive knowledge concerning their test results and information on the building styles of the Indian, Spanish, and Mexican cultures. The next step requires the students to classify three pictures of architectural styles and to classify each as Indian, Spanish, or Mexican architectural styles. The students are then allowed to test their inferences and are provided feedback to assure them that the focus is on the proper characteristics.

Next, the students are asked: "Now that you have completed this activity, what can you tell about the effect one culture has on another when the cultures come together? Are there examples of this in your hometown today? Be sure to explain your answer to the last question."

Most of the students who complete the packet will answer: "It changes their way of life." That's pretty close to the generalization the teacher is attempting to achieve.

STUDENTS REQUIRE A WIDE VARIETY OF EXPERIENCES

In order for students to learn, textbook content must be related to the students' experiences. After all, if students are really learning social studies, learning about themselves, their environment, their environment's relationship to humanity, and people's relationship to people, then the students' environment must be placed in the forefront.

The textbook is only one of many resources available to the teacher and should be used accordingly. The teacher should select only those portions of the book that fit the needs of the students. The textbook is also a mediating device that can be used when it fits into the teacher's instructional plan. It can be used as a beginning source, and portions of it can be used for culmination. Basically, however, it is simply another instructional tool. Although textbooks are important informational resources, pictures, graphs, maps, and a variety of experiences are equally important to the instructional process.

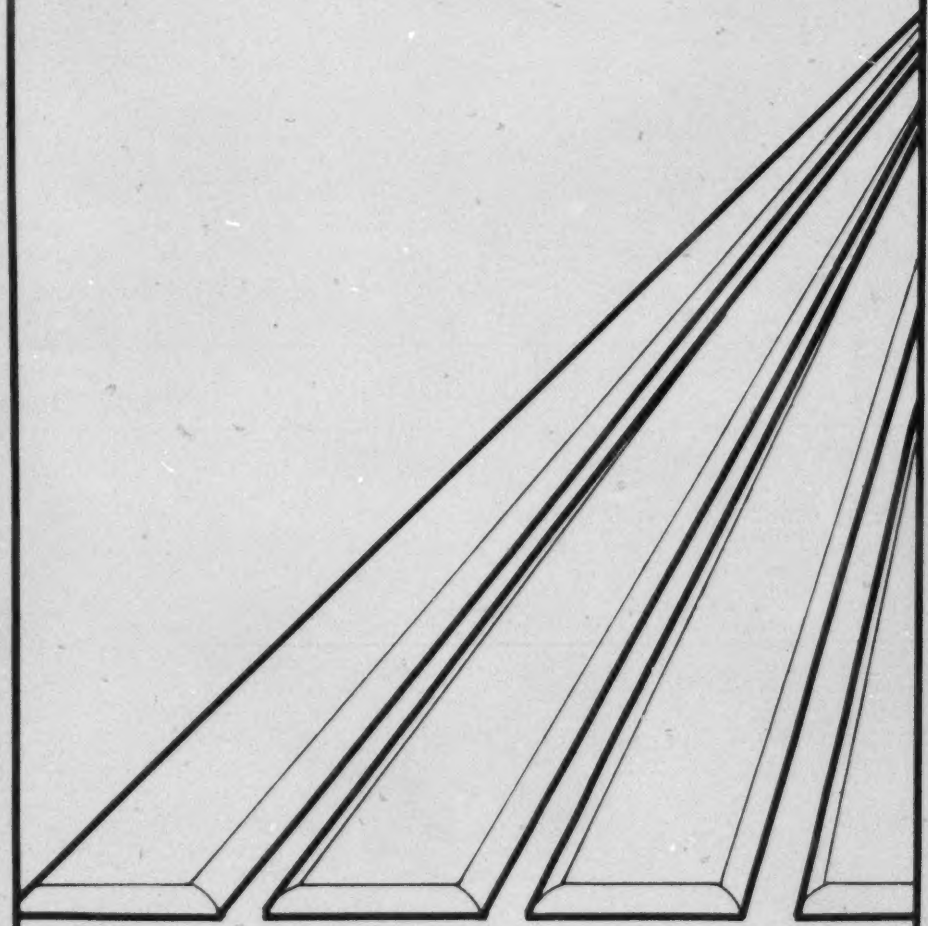
STUDENTS MUST BE HELPED TO ORGANIZE THE DATA FROM WHICH THEY ARE TO DEVELOP CONCEPTS AND GENERALIZATIONS

Teachers must use skill in recording information where students can see it. Many teachers make outlines, but an outline is only one organizational tool. Lists, charts, flowcharts, graphs, diagrams, and tables are others that are even more useful to students. These tools place information in front of students where they can group, label, rearrange, compare, contrast, and determine cause and effect. Teachers should use chalkboards, bulletin boards, chart stands, etc. to get the information students gather in front of them for their examination.

Without helping students to organize data, teachers cannot really lead productive discussions and the students cannot explore ideas, evaluate facts, or draw conclusions; nor can the class really examine some of the assumptions that they have made in reaching a conclusion.

In summary, one of the major goals of social studies education is teaching students to think. To accomplish this goal, teachers must focus on the tools of thought: facts, concepts, and generalizations.

STRATEGIES FOR TEACHING CONCEPTS



Two strategies for teaching concepts and generalizations frequently used in the social studies classroom will be discussed in more detail in this section. It should be emphasized that neither of these strategies is suggested as the best way to teach. The most successful teacher may incorporate both strategies.

THE DEDUCTIVE STRATEGY

The deductive strategy or approach is characterized by the introduction of the concept or generalization at the beginning of the instructional sequence. Later the student is presented with a number of examples or experiences and is afforded the opportunity to verify the concept or generalization. Generally the deductive strategy includes the following steps.

A Model for Mastery

From the beginning the student is given an idea of what is to be achieved--a model for mastery. Generally, in social studies, these models are of three types: informational, skill, and attitudinal. The informational model is used to give direction to the student in securing and using specific information such as outlines for oral reports or questions. An outline may also be classified as a skill model if it is designed for general purposes such as an outline of the correct form for a paragraph. An attitudinal model is used to demonstrate how people who hold certain attitudes behave in selected situations. This model lends itself well to the use of role playing and simulations.

Information

As the deductive strategy is implemented it soon becomes apparent that the various steps cannot be neatly separated into categories. As the students move from one step to the next, the teacher often will find it necessary to provide additional information in order for the students to achieve success.

Active Response

After the students are provided a model for mastery and needed information, the teaching sequence is usually broken down into activities that encourage active response from the students.

Knowledge of Results

Students need knowledge of the results of their efforts in the learning of information, skills, and attitudes so that a comparison of their understanding can be made with the model for mastery.

Guidance

With knowledge of results, the students are able to continue progress toward their objective with the guidance of the teacher. The major role of the teacher is to diagnose any difficulties the students may be having, identify ways of correcting the difficulties, and supply additional information when the students are ready for it. The teacher must be careful not to provide too much information for fear of creating confusion. The important principle is to supply only the information needed to complete the task or solve the problem.

Perhaps an example of a demonstration which follows the deductive teaching strategy will provide a better understanding.

The teacher initiates a social studies-science unit in the third grade classroom and selects a field trip as one of the learning experiences. The following demonstration is presented in preparation for the field trip. Objectives:

Looking at a simple compass card, each student will be able to identify the four cardinal directions.

Looking at a compass needle, each student will be able to read each of the indicated cardinal directions.

When asked, each student will be able to explain why he or she must make sure that there are no metal objects nearby when taking a compass reading.

The teacher begins the lesson by asking each student to list the four cardinal compass directions on a sheet of paper. As the students start to work, the teacher goes from table to table checking the students' papers. Of course, this activity is really a pretest to determine whether the students know the concepts.

Finding that two of the students did not know these concepts, the teacher sends them to a tape recorder to work with programmed materials adapted from a children's publication and then continues with the rest of the class, "This morning we are going to learn to read a compass."

Then the teacher places a compass on an opaque projector so that the entire class is able to view it on a screen and tells them, "By the time we are finished this morning, you will be able to show me north, south, east, and west on a compass. You will all be able to find these directions for yourself from compass readings."

Returning to the projector, the teacher uses a pointer to indicate the cardinal directions marked on the compass card.

"I'd like for you to mark these directions on the compass I've drawn on your papers. Would you do that for me, please?" Again the teacher moves around the room checking papers. (One of the two students working at the tape recorder finishes the task. The teacher briefly checks his or her paper and asks him or her to be seated and to work on the same task the other students are now doing. The teacher then proceeds.)

"That's very good! Reading the compass simply means that we say or write down what the compass shows us with its needle. Notice that this needle is made like an arrow."

The teacher continues, "In order to read the compass correctly, we must place north under the head of the arrow." Then the body of the compass is turned to align the needle and the compass card. "Now the arrow is pointing north," the teacher notes.

"But that's not north," one of the students replies.

"That *is* North, Bobby," the teacher responds. "I'm making my compass read incorrectly by placing it on this metal projector. Watch what happens when I place this metal weight on the projector."

As the needle direction changes the teacher focuses the attention of the students to the new compass reading.

"Which way does our compass say north is now? Please draw a needle on the second

compass I have drawn on your papers. Be sure to draw it in the same direction as the one on the screen. Since you cannot turn the compasses I have drawn for you, draw the four directions as they appear when I turn my compass to the proper directions." Again the teacher walks around the room checking the students' answers.

"Who can tell us why this metal weight and this projector make my compass read incorrectly? Theresa."

"Because they are metal," Theresa replies.

"That's partly true," the teacher encourages. "Is that the only reason?"

"Is the metal weight a magnet?" Sylvia queries.

"Yes, it is." The teacher pauses to see whether Sylvia can continue the analysis alone. After a rather long pause, the teacher poses another question: "What part of the compass is a magnet?" "It must be the needle," Jerry answers.

The teacher continues with the demonstration, providing several opportunities for the students to locate the other cardinal directions. Later, the teacher plans to provide the students opportunities to practice reading a compass on their own.

In the above strategy the teacher is attempting to supply the students with information and skills by providing the principles and illustrating these principles with examples. The steps in the deductive procedure are:

- providing a model,
- providing information,
- allowing active response,
- providing knowledge of results,
- guiding the students toward the modeled performance.

THE INDUCTIVE STRATEGY

Whereas the deductive strategy begins with generalizations and proceeds to specifics, the inductive strategy works conversely, beginning with specifics and proceeding to generalizations which are tested. One of the leaders in adapting the inductive strategy to the teaching of concepts was Hilda Taba. Her research paved the way for a number of strategies designed not only to teach concepts and facts but also to facilitate the construction of student concepts.

These strategies grew from a concern to improve the level of thinking in the classroom by stimulating the various cognitive processes. Taba believed that the thought processes operate in sequential order, building from the concrete to the abstract, and that each skill involved in the thought processes depended upon the mastery of the skills that preceded it. Therefore, the student must master the simpler thinking skills before mastering the more complex ones.

Taba concluded that it was possible to teach students to think at a higher cognitive level if the teaching strategies followed the proper developmental sequence. The major role of the teacher is to use questions and other techniques to guide the students through the sequence, keeping in mind at all times that the skills involved in each step or stage of development must be mastered before the student may proceed to the next one.

According to Taba, the sequence for developing concepts is in three stages:

- Brainstorming or identifying and listing data
- Grouping or classifying
- Labeling, conceptualizing

The purpose of the first stage is to bring the various aspects of a concept into view by listing and identifying relevant data. For example, assume a second grade class is studying the concept, supermarket. To elicit responses the teacher might ask such questions as: What do you see when you go to the supermarket? What do you buy when you go to the supermarket? What would you need if you were to open a supermarket?

In many instances students will not have the experiences or information necessary to brainstorm about more abstract concepts. Therefore, the teacher may find it necessary to provide a learning experience designed to give examples of the concept being introduced. One approach the teacher could use with the concept, supermarket, might be to begin by showing the students photographs of supermarkets and asking them to identify what they see in the photographs.

Once the various aspects of the concept have been listed, the students must then categorize them according to common features. For example, the teacher could ask: How can the photographs of the various items we found in the supermarket be organized into groups? Do you see some items on our list of things we need to start a supermarket that belong together in a group?

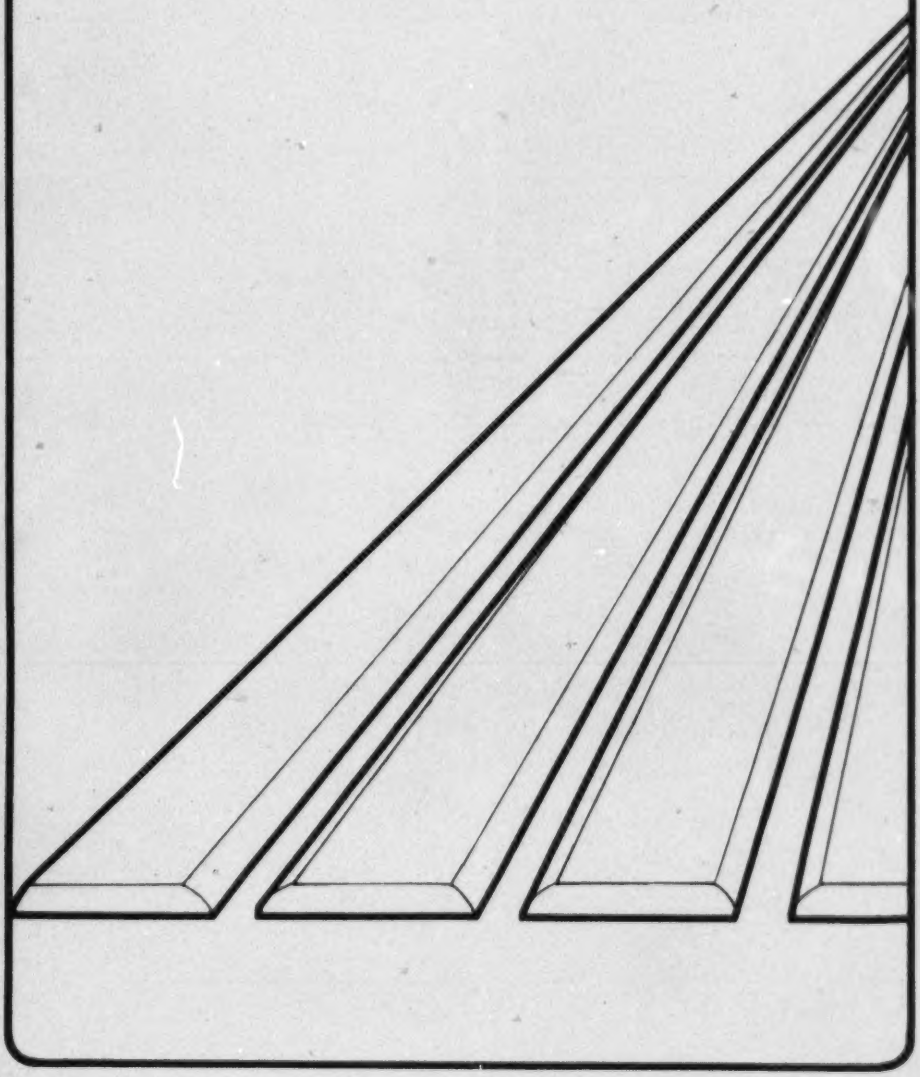
The next step is to label the categories with a term describing the element that they hold in common and determine any relationships the categories may have. Once the students have established the various relationships among categories, they may develop a mental diagram of these relationships and the hierarchial order of the items.

The result is a concept, or a mental image of what the students have been working with. The teacher could

elicit student response with such questions as: What would you call each of these groups of items? What does each of the items in the group have in common? What are the relationships among these groups?

After they are introduced to a concept, students then work with additional data to reinforce, broaden, and refine their image of the concept.

EVALUATING CONCEPTUAL TEACHING AND LEARNING



It is not uncommon for a teacher to perceive evaluation strictly in terms of student behavior. However, teacher behavior and the curriculum also should be considered.

In order to understand the role of each of the three aspects, teaching-learning must be considered an interactive process. The teacher's behavior influences the student's behavior through the curriculum--the planned activities that take place in the classroom. Selecting a specific lesson which is mediated through a film requires the student and the teacher to play certain roles to ensure success of the lesson. Teaching, then, is an interactive activity.

As professionals, teachers sometimes find it difficult to analyze themselves or to allow others to analyze their teaching behavior. Team teaching can help as long as team members remain open with each other. If teachers use specific strategies like those discussed on the preceding pages, someone whom they trust can objectively critique their teaching because the steps are easily identifiable. Another approach is to use a self-checklist such as the one on the following page.

ANALYZING TEACHER BEHAVIOR

All three interactants are shown in the checklist. The statements are presented from the teacher's point of view, but the central focus of the evaluation is directed toward the component being evaluated. Analyzing teacher behavior first necessitates analyzing what the teacher does to facilitate student participation.

Conceptual Teaching Evaluation Checklist

	U usually	S sometime	N never
Teacher Behavior:			
1. Do I ask students to clarify their ideas?			
2. Do I give too much information?			
3. Do I furnish information at appropriate times?			
4. Do I help students evaluate their conclusions by encouraging wide participation in the class?			
5. Do I present adequate models of mastery?			
Curriculum:			
6. Do I allow students to present their ideas and data?			
7. Do I depend entirely on written material as a source of data?			
8. Do I use group procedures to gather data?			
Student Behavior:			
9. Do I provide students adequate knowledge of results through regular evaluation?			
10. Do I diagnose student's problems in a teaching episode?			
11. Do I make room for individualized help?			

Active student participation requires the clarification of information presented. People definitely have different ways of perceiving things--conceptualizing. This becomes apparent when data is presented and clarified. The only way a teacher can be sure that everyone continues to participate is to be ensured that every student knows what is happening. The teacher can accomplish this through the clarification of ideas, "What do you mean by _____? Could you explain that a little?"

If the teacher is talking, the students are not. If students are to actively learn concepts and generalizations inductively, they must be given an opportunity to interact with the teacher, not merely to listen to the teacher's ideas.

The interplay of ideas among students is also extremely important. Adults do not see the world as children do. Students can learn a great deal about themselves by listening to other students. Nevertheless, the teacher must be there to encourage wide participation. Often, the teacher must resist the temptation to interject an idea to speed the process in favor of waiting and encouraging participation, bringing the challenge of additional data from the class. This process does much more for the students' egos than receiving more information from the teacher.

Item 4 on the self-evaluation checklist concerns helping students evaluate their conclusions, "What assumptions are you making? What facts are you using to support that position? Why do you think that is true?" All these questions help students to think logically and critically. Such queries should become a part of the classroom dialog.

Often models of mastery are the source of good group work. Most students do not come to school with the skills necessary to work well in groups. They must learn group problem-solving techniques. A combination of the deductive and inductive strategies in teaching

good group work will produce the skill level required. Here, too, the knowledge of results comes into play. Students must know how well they have done. Groups who work well together have focused on their progress as group participants. The teacher who stops a group at the end of the work period and praises it for its success is giving the students knowledge of results. Such action both rewards and motivates. This is the kind of classroom in which one will find a great deal of group unity. The students have made it, or they are progressing toward a goal together. This growth is vitally dependent upon the facilitative behavior of the teacher.

THE CURRICULUM, OR LESSON

One of the major implications of conceptual learning is that it must be active. Students must form their own concepts and generalizations. The teacher's role is to provide them with the real or vicarious experiences that will permit learning. That is why the teacher must focus on the student as the presenter of ideas.

These ideas cannot be taken solely from written materials. Taba's research indicates a very low correlation between a student's ability to think abstractly and his or her I.Q. as measured by group tests. The reason for this apparent discrepancy, of course, is the fact that scores on group I.Q. tests depend on the students' ability to read. To allow all students to actively gather data and analyze it, emphasis should be upon work in small groups and the use of a wide variety of print and nonprint materials.

For a number of years educators have acknowledged that students learn at different rates and have had differing kinds of experiences, but in many instances students are still expected to be able to use specific concepts with equal ability. However, the use of learning centers allows some flexibility that was

difficult to achieve with earlier management techniques.

ASSESSING STUDENT BEHAVIOR

With the advent of learning centers student evaluation has moved away from the paper-and-pencil test toward a variety of instruments. Such tests are often graded and recorded individually by the students, providing them with continuous knowledge of results. Many of these tests also are fun for the students to complete. Following are some examples.

One teacher was interested in having students list the natural advantages of Texas under the proper headings. Students were asked to make a mobile of the items. When the answers were correct the mobile would be properly balanced. If the answers were wrong the mobile would be out of balance. This simple technique did both test and instruct.

Attempting to teach students the sequential order of events in meat production, a teacher drew railroad engine and boxcars on a series of cards. Each card was also labeled as a step in the production sequence. When the students completed placing all the cars on the train, they could check their answers by a code printed on the back of the engine.

A group of teachers produced a game similar to Monopoly on the settlement of West Texas. They designed reward cards: money, a house, a farm, a ranch, seed, and cattle. They also had obstacle cards: Indian raids, diseases, sandstorms, floods, tornadoes, and range fires. After the game was completed, the students were asked to tell

about some of the problems and frustrations the pioneers encountered.

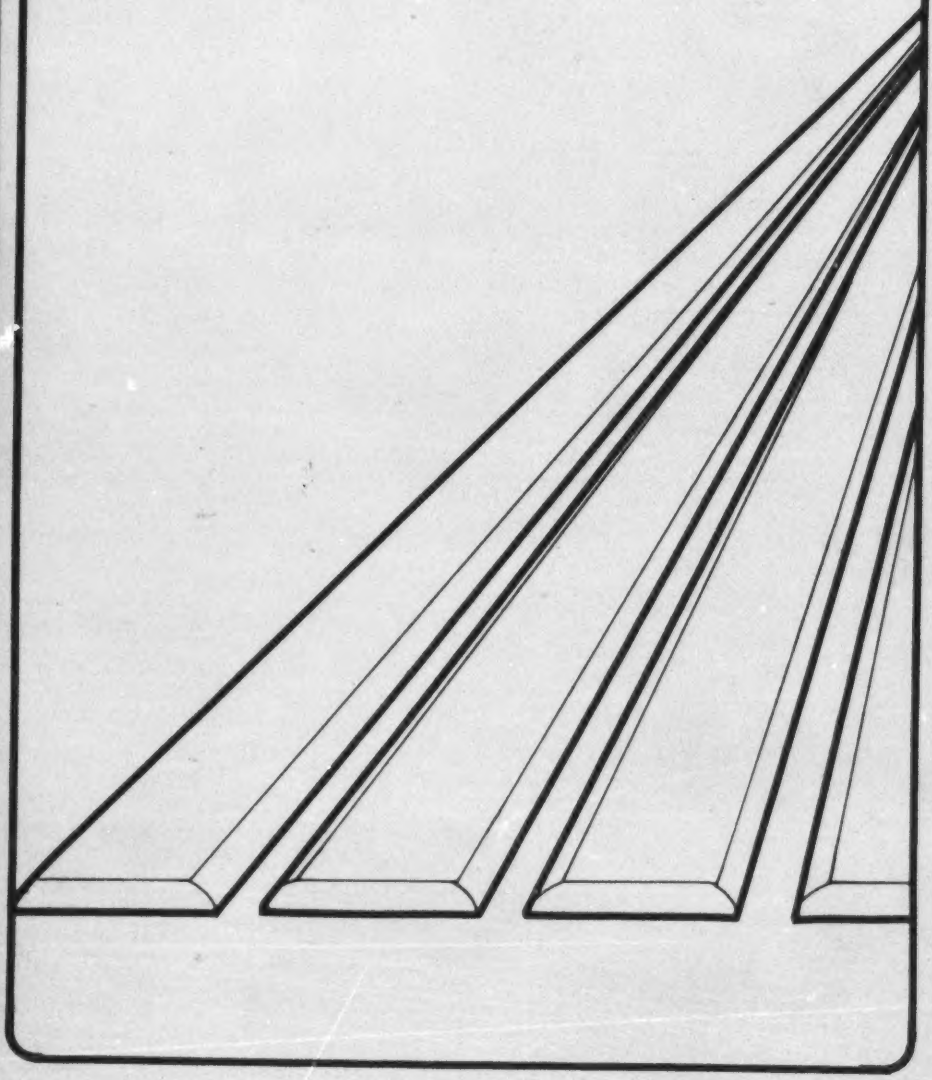
For a completion test a teacher developed a unit summary story with blanks where important concepts were to be furnished. Although the result looked a little like rebus writing, the motivation it provided students was exceptional. Another ingenious device which also tested for important concepts was a matching wheel. Along with the wheel were 12 clothes pins. On a piece of paper attached to each pin the teacher had written an important concept which was explained on the wheel. To get the right answer, the students had to clip the concept on the proper explanation. When the wheel was turned over, the concepts were numbered correctly in a series.

Assessing student progress and determining whether students need a lesson sequence are only two of the purposes for pretesting. A third reason for assessment is to determine whether a certain lesson or sequence of lessons fit student needs. Although many units of instruction are logical and educationally sound, they are pointless unless their purposes and objectives are in line with the needs of the students. Remember, those needs include knowledge, skills, and value explorations. The greatest difficulty most teachers have in analyzing individual problems is seeing the subskills required in a student's achievement of a major skill. The question the teacher should ask is, "What does the student need to be able to perform this skill?" In addition, teachers should become familiar with a taxonomy of skills such as Benjamin Bloom's. Bloom organizes skills into knowledge, comprehension, application, analysis, synthesis, and evaluation. Using such a taxonomy, teachers can diagnose learning tasks to determine individual needs.

Determining the problem is only one step in diagnostic teaching. The second step is treatment. Again a taxonomy may help. Suppose a student cannot select the words that describe natural resources from a list of 10 words. Using Bloom's taxonomy, the teacher knows that this is an application task which requires a fairly high skill level. Since the student cannot perform at this level. the teacher must test his or her comprehension and knowledge levels. For example, the student who can tell the teacher what a resource is only by using the words that the teacher has furnished is performing at the memory level of thinking. Therefore, the teacher must lead the student to generalize from the items that have been memorized to other items. The student must be able to identify resources in a new setting.

In summation, the evaluation of conceptual teaching must be viewed more broadly than merely in terms of the assessment of student behavior. Equally important to the process is an analysis of the curriculum and teacher behavior.

FOR FURTHER STUDY



Numerous articles, books, and parts of books deal with concepts and concept teaching and learning in social studies. The following list is not intended to be comprehensive; it merely identifies some publications which may be extremely useful to those interested in further study about concept teaching and learning.

Beyer, Barry K., and Penna, Anthony N., eds. *Concepts in the Social Studies.* Washington, D.C.: National Council for the Social Studies, 1971.

A collection of articles by leading educators in concept learning and social studies teaching.

Bloom, Benjamin S., ed. *Taxonomy of Educational Objectives: Handbook I--Cognitive Domain.* New York: David McKay Co., 1956.

Presents the basic theoretical framework and outline for the classifications of objectives and test questions.

Brandwein, Paul F. *Toward a Discipline of Responsible Consent: Elements in a Strategy for Teaching the Social Sciences in the Elementary School.* New York: Harcourt, Brace & World, Inc., 1969.

Presents a discussion of concepts, concept-ordering, concept-seeking, and the interplay of concepts and values.

Fancett, Verna S. *Social Science Concepts and the Classroom.* Syracuse, N.Y.: Social Studies Curriculum Center, Syracuse University, 1968.

Reviews several definitions of concepts and discusses inquiry.

Joyce, Bruce R.; Weil, Marsha; and Wald, Rhoada. *Three Teaching Strategies for the Social Studies.* Chicago: Science Research Associates, Inc., 1972.

Contains an extensive section on concept learning; designed to help teachers create vital social studies programs in their classrooms. The section emphasizes the nature of concepts, planning concept attainment exercises, and concept formation.

Martorella, Peter H. *Concept Learning in the Social Studies: Models for Structuring Curriculum.* Scranton, Pa.: International Textbook Co., 1971.
Contains an extensive review of the research on concept learning.

Morrissett, Irving, ed. *Concepts and Structure in the New Social Science Curricula.* New York: Holt, Rinehart and Winston, Inc., 1967.
A collection of conference papers which focuses on concepts in the social science curriculum--specifically on concepts and the structure of knowledge, organizing a curriculum around concepts, and the relationships among concepts, process, and values.

Price, Roy A.; Smith, Gerald R.; and Hickman, Warren L. *Major Concepts for the Social Studies.* Syracuse, N.Y.: Social Studies Curriculum Center, Syracuse University, 1965.
Presents brief descriptive statements of a selected number of substantive and value concepts drawn from the social sciences.

Rooze, Gene E., and Foerster, Leona M. *Teaching Elementary Social Studies: A New Perspective.* Columbus, Ohio: Charles E. Merrill Publishing Co., 1972.
Contains two chapters which present an analysis of the foundational disciplines of social studies content and provide a process model through which the teacher can develop a conceptual instructional plan.

Taba, Hilda. *Teachers' Handbook for Elementary Social Studies.* Reading, Mass.: Addison-Wesley Publishing Co., 1967.
Contains sections on the use of basic concepts for structuring content and concept formation as a teaching strategy.

Tanck, Marlin L., edited by Dorothy McClure Fraser. "Teaching Concepts, Generalizations, and Constructs." *Social Studies Curriculum Development: Prospects and Problems.* Washington, D.C.: National Council for the Social Studies, 1968.
Article is directed entirely to concept learning in the social studies.

Wehlage, Gary, and Anderson, Eugene M. *Social Studies Curriculum in Perspective: A Conceptual Analysis.* Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972.
Provides an analysis of the fundamental elements found in the social studies curriculum, including concepts and generalizations.

Womack, James G. *Discovering the Structure of Social Studies.* New York: Benziger Brothers, 1966.
Focuses on the types of social studies generalizations, functions of generalizations, and the relationships of concepts to generalizations.